our present plan/work

(subject to change – i.e. we have not yet received guidance from Willis/Kotcher as result of 4-5 Nov AGS Review

- Continue cost scrubbing and schedule development
- Highest priority to AGS/BOOSTER WBS 1.4.1
 - Cost scrubbing, what can we postpone until operations phase? etc...
 - Schedule in particular a plan to get the AGS/BOOSTER in shape for high intensity beam development --- by beginning of 3rd year of construction?
 - Beam development plan that fits within constant effort RHIC budget scenario with 2 beams i.e. figure on 80 hrs/week and 15 weeks/year
 - Case 1: Beam development during entire 5 year construction period
 - Case 2: Beam development beginning 3rd year of construction
- The construction plan should be developed consistent with no beam development in first two years of the project (Case 2 above)
 - D-line decommissioned
 - C-Line available beginning of 3rd year for tests
 - there's a risk (small) that we may have to revert back to the original plan (Case 1).

AGS RSVP Infrastructure - Costs

v24 12/3/04

Present Cost Estimate with 5 year beam development plus 1 year contingency

Switchyard 1.4.2 2.36 0.35 0.88 10.69 14.28 2.98 1.28			RSVP AGS Infrastructure Labor FTE's # (without Contingency or beam development personnel)										
AGS/Booster 1.4.1			Management	Admin	Eng'r	Physicist	Design	Tech	C-AD Total	DTS	Shops		
Switchyard 1.4.2 2.36 0.35 0.88 10.69 14.28 2.98 1.28 (OPIO 1.4.3 5.24 3.47 2.01 11.03 21.75 5.56 0.46 MECO 1.4.4 7.74 4.95 2.55 14.62 29.87 8.41 1.86 AGS Project Office 1.4.5 5.00 1.25 7.79 12.52 17.47 59.93 123.26 19.73 9.76 4 does not include FTE's for beam development Materials G-AD Labor DTS/Shops Sub-Total Contingency Total WBS AGS/Booster 1.4.1 \$ 9,089,483 \$ 7,602,140 \$ 1,657,914 \$ 18,349,537 \$ 3,577,192 \$ 21,926,729 Switchyard 1.4.2 \$ 1,564,618 \$ 2,000,228 \$ 647,597 \$ 4,212,442 \$ 828,652 \$ 5,041,094 KOPIO 1.4.3 \$ 4,508,504 \$ 3,380,750 \$ 823,878 \$ 8,713,132 \$ 2,073,546 \$ 10,786,678 MECO 1.4.4 \$ 3,583,557 \$ 4,675,654 \$ 1,477,120 \$ 9,736,330 \$ 2,274,310 \$ 12,010,640 AGS Project Office 1.4.5 \$ 62,864 \$ 1,479,437 \$ 1,542,301 \$ 308,460 \$ 1,850,761 TOTAL \$ 18,809,025 \$ 19,138,209 \$ 4,606,509 \$ 42,553,742 \$ 9,062,160 \$ 51,615,902 Triculudes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC What's Missing from this		WBS											
COPIO 1.4.3 5.24 3.47 2.01 11.03 21.75 5.56 0.46	AGS/Booster	1.4.1			11.75	3.74	12.03	23.59	51.11	2.78	6.16		
COPIO 1.4.3 5.24 3.47 2.01 11.03 21.75 5.56 0.46	Cwitchyard	1/12			2.36	0.35	0.88	10.60	1/1 29	2.08	1 20		
MECO 1.4.4 7.74 4.95 2.55 14.62 29.87 8.41 1.86 AGS Project Office 1.4.5 5.00 1.25 27.09 12.52 17.47 59.93 123.26 19.73 9.76 From the does not include FTE's for beam development 7.60 1.25 27.09 12.52 17.47 59.93 123.26 19.73 9.76 RSVP AGS Infrastructure Cost Summary (fully burdened) 7.60	Switchyard	1.4.2			2.30	0.33	0.00	10.09	14.20	2.30	1.20		
AGS Project Office 1.4.5 5.00 1.25 27.09 12.52 17.47 59.93 123.26 19.73 9.76 # does not include FTE's for beam development	K0PI0	1.4.3			5.24	3.47	2.01	11.03	21.75	5.56	0.46		
AGS Project Office 1.4.5 5.00 1.25 27.09 12.52 17.47 59.93 123.26 19.73 9.76 # does not include FTE's for beam development	MECO	1.4.4			7.74	4.95	2.55	14.62	29.87	8.41	1.86		
Solution Figure Figure													
RSVP AGS Infrastructure Cost Summary (fully burdened) Materials C-AD Labor DTS/Shops Sub-Total Contingency Total	AGS Project Office	1.4.5	5.00	1.25					6.25				
RSVP AGS Infrastructure Cost Summary (fully burdened) Materials C-AD Labor DTS/Shops Sub-Total Contingency Total	Total		5.00	1.25	27.09	12.52	17.47	59.93	123.26	19.73	9.76		
Materials C-AD Labor DTS/Shops Sub-Total Contingency Total	# does not include FTE's	for bea	ım development										
AGS/Booster 1.4.1 \$ 9,089,483 \$ 7,602,140 \$ 1,657,914 \$ 18,349,537 \$ 3,577,192 \$ 21,926,729 \$ Switchyard 1.4.2 \$ 1,564,618 \$ 2,000,228 \$ 647,597 \$ 4,212,442 \$ 828,652 \$ 5,041,094 \$ KOPIO 1.4.3 \$ 4,508,504 \$ 3,380,750 \$ 823,878 \$ 8,713,132 \$ 2,073,546 \$ 10,786,678 \$ MECO 1.4.4 \$ 3,583,557 \$ 4,675,654 \$ 1,477,120 \$ 9,736,330 \$ 2,274,310 \$ 12,010,640 \$ AGS Project Office 1.4.5 \$ 62,864 \$ 1,479,437 \$ 1,542,301 \$ 308,460 \$ 1,850,761 \$ TOTAL \$ 18,809,025 \$ 19,138,209 \$ 4,606,509 \$ 42,553,742 \$ 9,062,160 \$ 51,615,902 \$ Beam Development* \$ 14,305,738 \$ 12,269,664 \$ 26,575,402 \$ 5,660,411 \$ 32,235,813 \$ RSVP AGS WBS Total \$ 33,114,763 \$ 31,407,872 \$ 4,606,509 \$ 69,129,144 \$ 14,722,571 \$ 83,851,715 \$ Tincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC				RSVP AGS Infi	astructure Co	st Summary (fu	ully burdened)						
AGS/Booster 1.4.1 \$ 9,089,483 \$ 7,602,140 \$ 1,657,914 \$ 18,349,537 \$ 3,577,192 \$ 21,926,729 \$			Materials	C-AD Labor	DTS/Shops	Sub-Total	Contingency	Total					
Switchyard 1.4.2 \$ 1,564,618 \$ 2,000,228 \$ 647,597 \$ 4,212,442 \$ 828,652 \$ 5,041,094 KOPIO 1.4.3 \$ 4,508,504 \$ 3,380,750 \$ 823,878 \$ 8,713,132 \$ 2,073,546 \$ 10,786,678 MECO 1.4.4 \$ 3,583,557 \$ 4,675,654 \$ 1,477,120 \$ 9,736,330 \$ 2,274,310 \$ 12,010,640 AGS Project Office 1.4.5 \$ 62,864 \$ 1,479,437 \$ 1,542,301 \$ 308,460 \$ 1,850,761 FOTAL \$ 18,809,025 \$ 19,138,209 \$ 4,606,509 \$ 42,553,742 \$ 9,062,160 \$ 51,615,902 Beam Development* \$ 14,305,738 \$ 12,269,664 \$ 26,575,402 \$ 5,660,411 \$ 32,235,813 RSVP AGS WBS Total \$ 33,114,763 \$ 31,407,872 \$ 4,606,509 \$ 69,129,144 \$ 14,722,571 \$ 83,851,715 Fincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC What's Missing from this													
KOPIO 1.4.3 \$ 4,508,504 \$ 3,380,750 \$ 823,878 \$ 8,713,132 \$ 2,073,546 \$ 10,786,678 MECO 1.4.4 \$ 3,583,557 \$ 4,675,654 \$ 1,477,120 \$ 9,736,330 \$ 2,274,310 \$ 12,010,640 AGS Project Office 1.4.5 \$ 62,864 \$ 1,479,437 \$ 1,542,301 \$ 308,460 \$ 1,850,761 TOTAL \$ 18,809,025 \$ 19,138,209 \$ 4,606,509 \$ 42,553,742 \$ 9,062,160 \$ 51,615,902 Beam Development* \$ 14,305,738 \$ 12,269,664 \$ 26,575,402 \$ 5,660,411 \$ 32,235,813 RSVP AGS WBS Total \$ 33,114,763 \$ 31,407,872 \$ 4,606,509 \$ 69,129,144 \$ 14,722,571 \$ 83,851,715 Tincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	AGS/Booster	1.4.1	\$ 9,089,483	\$ 7,602,140	\$ 1,657,914	\$ 18,349,537	\$ 3,577,192	\$ 21,926,729					
MECO 1.4.4 \$ 3,583,557 \$ 4,675,654 \$ 1,477,120 \$ 9,736,330 \$ 2,274,310 \$ 12,010,640 AGS Project Office 1.4.5 \$ 62,864 \$ 1,479,437 \$ 1,542,301 \$ 308,460 \$ 1,850,761 TOTAL \$ 18,809,025 \$ 19,138,209 \$ 4,606,509 \$ 42,553,742 \$ 9,062,160 \$ 51,615,902 Beam Development* \$ 14,305,738 \$ 12,269,664 \$ 26,575,402 \$ 5,660,411 \$ 32,235,813 RSVP AGS WBS Total \$ 33,114,763 \$ 31,407,872 \$ 4,606,509 \$ 69,129,144 \$ 14,722,571 \$ 83,851,715 Tincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	Switchyard	1.4.2	\$ 1,564,618	\$ 2,000,228	\$ 647,597	\$ 4,212,442	\$ 828,652	\$ 5,041,094					
AGS Project Office 1.4.5 \$ 62,864 \$ 1,479,437 \$ 1,542,301 \$ 308,460 \$ 1,850,761 TOTAL \$ 18,809,025 \$ 19,138,209 \$ 4,606,509 \$ 42,553,742 \$ 9,062,160 \$ 51,615,902 Beam Development* \$ 14,305,738 \$ 12,269,664 \$ 26,575,402 \$ 5,660,411 \$ 32,235,813 RSVP AGS WBS Total \$ 33,114,763 \$ 31,407,872 \$ 4,606,509 \$ 69,129,144 \$ 14,722,571 \$ 83,851,715 Tincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	K0PI0	1.4.3	\$ 4,508,504	\$ 3,380,750	\$ 823,878	\$ 8,713,132	\$ 2,073,546	\$ 10,786,678					
AGS Project Office 1.4.5 \$ 62,864 \$ 1,479,437 \$ 1,542,301 \$ 308,460 \$ 1,850,761 FOTAL \$ 18,809,025 \$ 19,138,209 \$ 4,606,509 \$ 42,553,742 \$ 9,062,160 \$ 51,615,902 Beam Development* \$ 14,305,738 \$ 12,269,664 \$ 26,575,402 \$ 5,660,411 \$ 32,235,813 RSVP AGS WBS Total \$ 33,114,763 \$ 31,407,872 \$ 4,606,509 \$ 69,129,144 \$ 14,722,571 \$ 83,851,715 Tincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	MECO	1.4.4	\$ 3,583,557	\$ 4,675,654	\$ 1,477,120	\$ 9,736,330	\$ 2,274,310	\$ 12,010,640					
TOTAL	AGS Project Office	1.4.5	\$ 62.864	\$ 1479437		\$ 1.542.301	\$ 308 460	\$ 1.850.761					
Beam Development* \$ 14,305,738 \$ 12,269,664 \$ 26,575,402 \$ 5,660,411 \$ 32,235,813 RSVP AGS WBS Total \$ 33,114,763 \$ 31,407,872 \$ 4,606,509 \$ 69,129,144 \$ 14,722,571 \$ 83,851,715 Tincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	riae i reject e mee		Φ 02,001	Ψ 1,170,107		Ψ 1,012,001	φ σσσ, ισσ	Ψ 1,000,101					
RSVP AGS WBS Total \$33,114,763 \$31,407,872 \$4,606,509 \$69,129,144 \$14,722,571 \$83,851,715 Tincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	TOTAL		\$ 18,809,025	\$ 19,138,209	\$ 4,606,509	\$ 42,553,742	\$ 9,062,160	\$51,615,902					
rincludes Personnel, M&S, DTS and Power Costs, assumes Jan 04 plan, FY06-10 running with RHIC and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	Beam Development*		\$ 14,305,738	\$ 12,269,664		\$ 26,575,402	\$ 5,660,411	\$ 32,235,813					
and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	RSVP AGS WBS Total		\$ 33,114,763	\$ 31,407,872	\$ 4,606,509	\$ 69,129,144	\$ 14,722,571	\$83,851,715					
and 1 year contingency with 10 weeks running outside RHIC What's Missing from this	* includes Description	100 5	Cond Daws 2		lan Od mlari	V06 10	wwith DUID						
						- tuo-iu running	g with KHIC						
	, ,												
			evaluating if this	is nossible					RSVP Extin	ction Co	nference		

P. Pile

8 December 2004

AGS RSVP Infrastructure - Costs

v24 12/3/04

Present Cost Estimate with 3 year beam development and no contingency (The direction we are heading)

		RSVP AGS Infrastructure Labor FTE's # (without Contingency or beam development personnel)											
		Management	Admin	Eng'r	Physicist	Design	Tech	C-AD Total	DTS	Shops			
	WBS												
AGS/Booster	1.4.1			11.75	3.74	12.03	23.59	51.11	2.78	6.16			
Curitohyord	1.4.2			2.36	0.35	0.88	10.69	14.28	2.98	1.28			
Switchyard	1.4.2			2.30	0.35	0.00	10.69	14.20	2.90	1.20			
K0PI0	1.4.3			5.24	3.47	2.01	11.03	21.75	5.56	0.46			
MECO	1.4.4			7.74	4.95	2.55	14.62	29.87	8.41	1.86			
AGS Project Office	1.4.5	5.00	1.25					6.25					
Total		5.00	1.25	27.09	12.52	17.47	59.93	123.26	19.73	9.76			
# does not include FTE	E's for beam	development											
		·											
DRAFT (not on web)			RSVP AGS Inf		st Summary (fo								
12/2/04		Materials	C-AD Labor	DTS/Shops	Sub-Total	Contingency	Total						
400/D	WBS	A 0.000 100	A 7 000 140	A 4 057 044	A 10 040 507	A 0.577.400	* 04 000 700						
AGS/Booster	1.4.1	\$ 9,089,483	\$ 7,602,140	\$ 1,657,914	\$ 18,349,537	\$ 3,577,192	\$ 21,926,729	<u> </u>					
Switchyard	1.4.2	\$ 1,564,618	\$ 2,000,228	\$ 647,597	\$ 4,212,442	\$ 828,652	\$ 5,041,094						
K0PI0	1.4.3	\$ 4,508,504	\$ 3,380,750	\$ 823,878	\$ 8,713,132	\$ 2,073,546	\$ 10,786,678						
ME00	4.4.4	A 0.500.557	Φ 4.075.054	ф. 4.77.400	4 0 700 000	Φ 0.074.040	* 40 040 040						
MECO	1.4.4	\$ 3,583,557	\$ 4,675,654	\$ 1,477,120	\$ 9,736,330	\$ 2,274,310	\$ 12,010,640						
AGS Project Office	1.4.5	\$ 62,864	\$ 1,479,437		\$ 1,542,301	\$ 308,460	\$ 1,850,761						
TOTAL		\$ 18,809,025	\$ 19,138,209	\$ 4,606,509	\$ 42,553,742	\$ 9,062,160	\$51,615,902						
Beam Development*		\$ 10,992,596	\$ 6,678,995		\$ 17,671,591	\$ -	\$ 17,671,591						
•													
RSVP AGS WBS Tota	ıl	\$ 29,801,621	\$ 25,817,204	\$ 4,606,509	\$ 60,225,333	\$ 9,062,160	\$ 69,287,493						
* includes Personnel	M&S, DTS	and Power Cos	ts, assumes 15	weeks/year w	ith RHIC for las	t 3 years of pro	pject						
What's Missing from	this						1	RSVP Extinc	tion Con	forence			
AGS and Booster Colli		aluating if this is i	oossible						HOH COL	referice			
				1		1		P. Pile		1			

Beam Development: Case 1, 19 weeks/year with RHIC beginning 1st year, with contingency year

RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI	RHIC erving 1 RHIC O RHIC 27 weel	opera 5 we perat	ations since eks for shut		during a given	voor.			
(2) Last week of RHIC operations is considered running outside (3) AGS is available for RSVP the balance of the time after reside (4) 80 hours/week are available for RSVP experiments during F (5) 120 hours/week are available for RSVP experiments outside (6) RHIC Cryo Operations based on "Constant Effort" budget - (7) Assumes RSVP Commissioning with neutral and muon bease Example (Nov 04 plan) FN RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI	RHIC erving 1 RHIC O RHIC 27 weel	opera 5 we perat	ations since eks for shut		during a given	/OOF			
(3) AGS is available for RSVP the balance of the time after resi (4) 80 hours/week are available for RSVP experiments during F (5) 120 hours/week are available for RSVP experiments outside (6) RHIC Cryo Operations based on "Constant Effort" budget - (7) Assumes RSVP Commissioning with neutral and muon bea Example (Nov 04 plan) FN RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPI0 MECO Outside RHIC KOPI0 MECO W/RHIC HI	erving 1 RHIC O e RHIC 27 weel	5 we perat	eks for shut	this is cryo warm-		/tai			
(3) AGS is available for RSVP the balance of the time after resi (4) 80 hours/week are available for RSVP experiments during F (5) 120 hours/week are available for RSVP experiments outside (6) RHIC Cryo Operations based on "Constant Effort" budget - (7) Assumes RSVP Commissioning with neutral and muon bea Example (Nov 04 plan) FN RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPI0 MECO Outside RHIC KOPI0 MECO W/RHIC HI	erving 1 RHIC O e RHIC 27 weel	5 we perat	eks for shut		up week (inject	ors not running	g)		
(4) 80 hours/week are available for RSVP experiments during F (5) 120 hours/week are available for RSVP experiments outside (6) RHIC Cryo Operations based on "Constant Effort" budget - (7) Assumes RSVP Commissioning with neutral and muon bea Example (Nov 04 plan) FY RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI	RHIC O RHIC 27 weel	perat		down work			,		
(5) 120 hours/week are available for RSVP experiments outside (6) RHIC Cryo Operations based on "Constant Effort" budget - (7) Assumes RSVP Commissioning with neutral and muon bea Example (Nov 04 plan) RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI	RHIC 27 weel		แบบร						
(7) Assumes RSVP Commissioning with neutral and muon bear Example (Nov 04 plan) RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI									
(7) Assumes RSVP Commissioning with neutral and muon bear Example (Nov 04 plan) RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI		ks pe	er year						
RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI	шын			construction end	s in FY2010 w	th an engineer	ing run		
RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI							_		
RHIC Cryo Weeks HI-HI Phys. Wks. pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI	706		FY07	FY08	FY09*	FY10**		Contingency	***
pp, pHI Phys. Wks. Available Outside RHIC TOTAL RSVP Weeks Available K0PI0 MECO Outside RHIC K0PI0 MECO W/RHIC HI	27		27	27	27	27		27	
Available Outside RHIC TOTAL RSVP Weeks Available KOPIO MECO Outside RHIC KOPIO MECO W/RHIC HI	9		0	19	0	19		5	
TOTAL RSVP Weeks Available 2 K0PI0 MECO Outside RHIC K0PI0 MECO W/RHIC HI	0		19	0	19	0		10	
K0PI0 MECO Outside RHIC K0PI0 MECO W/RHIC HI	0		10	10	10	10		10	
K0PI0 MECO Outside RHIC K0PI0 MECO W/RHIC HI						·			
MECO Outside RHIC K0PI0 MECO W/RHIC HI	29		29	29	29	29		25	
Outside RHIC K0PI0 MECO W/RHIC HI	7		9	6	7	9.5		5	
K0PI0 MECO W/RHIC HI	4		6	7	7	9.5		5	
K0PI0 MECO W/RHIC HI									
MECO W/RHIC HI									
W/RHIC HI	0		0	C	-	0		5	
	0		0	(0	0		5	
K0PI0	7		0	6	-	9.5		0	
MECO	4		0	7	0	9.5		0	
W/RHIC pp									
K0PI0	0		9	(0		0	
MECO	0		6	(7	0		0	
							Total		Total W/Cont
Personnel \$ 2,22	26,332	\$	2,226,332	\$ 2,226,332	\$2,795,334	\$ 2,795,334	\$ 12,269,664	\$ 2,226,332	\$ 14,495,996
Other \$ 2,19	96,172	\$	1,967,472	\$ 2,511,194	\$2,671,315	\$ 4,959,586	\$ 14,305,738	\$ 3,434,079	\$ 17,739,817
		<u> </u>							
Total \$ 4,42	22,504	\$	4,193,804	\$ 4,737,525	\$5,466,649	\$ 7,754,920	\$ 26,575,402	\$ 5,660,411	\$ 32,235,813
* Commissioning with neutral beam (K0PI0) and muon bea		PIO), f	full operation	ns cost with red	uced indirects	}			
** Engineering Run, full operations costs with reduced ind	rects								
*** Contingency (with FY2006-2008 cost basis)									

Beam Development: Case 2, 15 weeks/year with RHIC beginning 3rd year, no contingency

Example RSVP Beam Development Plan								
Assumptions	-							
(1) AGS not available for RSVP during 1st 7 weeks of RI	HC operations	and for 4 week	s/additional beam of	during a given	year			
(2) Last week of RHIC operations is considered running						g)		
(3) AGS is available for RSVP the balance of the time af								
(4) 80 hours/week are available for RSVP experiments of								
(5) 120 hours/week are available for RSVP experiments								
(6) RHIC Cryo Operations based on "Constant Effort" but								
(7) Assumes RSVP Commissioning with neutral and mu	on beams in F	Y2009 and RSV	P construction end	s in FY2010 w	ith an engineer	ring run		
Example (Nov 04 plan)	FY06	FY07	FY08	FY09*	FY10**		Contingency	***
RHIC Cryo Weeks	27	27	27	27	27		27	
HI-HI Phys. Wks.	5	10	5	10	5		5	
pp, pHI Phys. Wks.	10	5	10	5	10		10	
Available Outside RHIC	10	10	10	10	10		10	
TOTAL RSVP Weeks Available	25	25	25	25	25		25	
KOPIO	0	C					0	1
MECO	0	С	7.5	7.5	7.5		0	,
Outside RHIC								
K0PI0	0	C	0	0	0		0	,
MECO	0	C	0	0	0		0	,
W/RHIC HI								
K0PI0	0	C	2.5	5	2.5		0	,
MECO	0	C					0	,
W/RHIC pp								
K0PI0	0	9	5	2.5	5		0	
MECO	0	6	5				0	,
						Total		Total W/Cont
Personnel	\$ -	\$ -	\$ 2,226,332	\$2,226,332	\$ 2,226,332	\$ 6,678,995	\$ -	\$ 6,678,995
Power								
Other	\$ -	\$ 1,967,472	\$ 2,247,539	\$3,564,349	\$ 3,213,236	\$ 10,992,596	\$ -	\$ 10,992,596
Total	\$ -	\$ 1,967,472	¢ 4.473.971	\$ 5 700 691	\$ 5 430 569	\$ 17,671,591	¢	\$ 17,671,591
Total	Ψ -	φ 1,307,472	φ 4,473,071	φυ, ε συ, σο ι	φ 5,438,500	φ 11,0/1,391	φ -	φ 11,011,091
* Commissioning with neutral beam (K0PI0) and muc		10), full operati	ons cost with redu	ced indirects	\$			
** Engineering Run, full operations costs with reduc	ed indirects							
*** Contingency (with FY2006-2008 cost basis)								

RSVP Extinction Conference P. Pile 8 December 2004

Comments

- Lacking formal guidance, my assumption is no funds will be allocated in 2005 for RSVP beam development concurrent with RHIC operations.
- D6 Beam Line, presently available for tests but...
 - D-line to be decommissioned
 - If construction funds are not available until after this summer, then the D-line could be used in Spring 2005 after completion of RHIC run for dedicated RSVP tests
- LESBIII status
 - Low energy < 820 MeV/c
 - Separator #1 works only at low voltage
 - Primary beam line needs a beam dump